

Appln. No. 10/613,555  
Response to Office Action mailed May 12, 2006

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R E M A R K S

The following feature of claim 1 was added to claims 13 to 18:

"said steel sheet having a creep elongation of 0.50% or smaller, measured when said steel is maintained at a temperature of 450°C for 20 minutes with a tension of 300 N/mm<sup>2</sup> being applied to said steel sheet."

With respect of rule 116, entry of the amendments is respectfully submitted, since the amendments involve a feature that was set forth in the claims prior to the final rejection.

Applicants are pleased to note that claims 1 to 3 and 7 to 9 were allowed.

Claims 13 to 18 were rejected under 35 US C103 as being unpatentable over Sugihara et al. (WO 01/12870) for the reasons set forth in item no. 3 on pages 2 to 4 of the Office Action.

It was admitted in the Office Action that Sugihara et al. do not teach the process steps recited in applicants' claims 13 and 14.

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Sugihara et al. do not include any disclosure concerning creep characteristics.

The present claims result in a steel sheet having desirable magnetic and creep resistance, and thus completely differs from WO 01/12870, which does not pay any attention to creep resistance.

According to the present claims and as described in the present specification on page 25, line 8 to page 27, line 2, an annealing treatment is carried out in a temperature region in which recrystallization does not occur (preferably at 590°C), and subsequently a cold rolling or a skin pass rolling after the cold rolling is carried out to improve the creep resistance under high temperatures, as well as the magnetic characteristics. If the annealing temperature exceeds 600°C, the treated steel sheet will have a creep elongation of larger than 0.50% (measured when the steel sheet is maintained at 450°C for 20 minutes with a tension of 300 N/mm<sup>2</sup> applied thereto) - see samples Nos. 9 and 32 in Tables 2 and 4 on pages 32 and 36, respectively, of the present specification.

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In contrast to the present claims, WO 01/12870 discloses an annealing treatment for recrystallization performed at a temperature of 600°C to 780°C, after a cold rolling (see US2004/0007290A1 corresponding to this reference, page 4, paragraph number 0066). In Sugihara et al., the annealing temperature is set to be 600°C or higher to remove the residual strain caused by the cold rolling. Accordingly, it is evident that Sugihara et al. do not pay any attention to creep resistance under high temperatures. As a matter of fact, it is apparent that Sugihara et al. do not attain an excellent creep resistance under high temperatures.

Claims 13 to 18 were rejected under 35 USC 103 as being obvious over USP 6,635,361 to Sugihara et al. for the reasons stated in item no. 5 on pages 6 to 7 of the Office Action.

USP 6,635,361 is a related family member of WO 01/12870, which is discussed above.

Applicants' present claims recite a creep elongation of 0.50% or smaller. Such feature does not appear to be taught or suggested in USP 6,635,361.

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The prior rejections over WO 01/12870 and USP 6,635,361 are also considered to be overcome by the recitation in claims 13 to 18 of the following feature:

"said steel sheet having a creep elongation of 0.50% or smaller, measured when said steel is maintained at a temperature of 450°C for 20 minutes with a tension of 300 N/mm<sup>2</sup> being applied to said steel sheet."

Withdrawal of the prior art rejections is therefore respectfully submitted.

Claims 13 to 18 were rejected on the grounds of obviousness-type double patenting as being unpatentable over claims 1 to 18 of USP 6,635,361 to Sugihara et al. for the reasons set forth in item no. 4 on pages 4 to 6 of the Office Action.

The applicants' claims recite a steel sheet having a creep elongation of 0.50% or smaller. Such feature is not recited in the claims of USP 6,635,361.

The double patenting rejection is also considered to be overcome by the addition in claims 13 to 18 of the aforesaid

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feature recited in claims 13 to 18 ("said sheet having a creep elongation of 0.505 or smaller...").


Withdrawal of the double patenting rejection is therefore respectfully submitted.

Reconsideration is requested. Allowance is solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

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Respectfully submitted,



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